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CRITICAL EVALUATION OF NEEDS ASSESSMENT METHODOLOGY IN DESIGNING APPROPRIATE CURRICULUM

EVALUASI KRITIS METODOLOGI ANALISIS KEBUTUHAN *(NEEDS ASSESSMENT)* DALAM PERANCANGAN KURIKULUM TEPAT GUNA

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Abstract

Needs assessment plays a strategic role in curriculum design because it serves as the basis for identifying gaps between actual and desired conditions and determining the direction of curriculum development. However, the practice of needs assessment still faces methodological challenges, such as equating needs with preferences, the dominance of a single instrument, limited stakeholder involvement, lack of attention to context, potential bias, and weak validation and prioritization of needs. This study aims to examine the nature and urgency of needs assessment, analyze its approach and methodology, evaluate implementation challenges, and formulate a methodological reconstruction to support appropriate curriculum design. The study employed a qualitative approach with library research. Data were obtained through the search and selection of relevant scientific literature, then analyzed through identification, categorization, comparison, synthesis, and critical analysis. The study's results indicate that needs assessment needs to be implemented in a multidimensional, participatory, contextual, and triangulation-based manner. Quantitative and qualitative approaches need to be used in a complementary manner, accompanied by prioritization of needs and translation of analysis results into objectives, content, learning experiences, learning strategies, and curriculum evaluation. A futuristic orientation is also needed to ensure the curriculum is responsive to change. Thus, needs assessment must be positioned as an ongoing process to produce a curriculum that is relevant, contextual, implementable, and adaptive.

Keywords : Needs Assessment, Needs Analysis, Curriculum Design, Methodology.

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Abstrak

Needs assessment memiliki posisi strategis dalam perancangan kurikulum karena menjadi dasar untuk mengidentifikasi kesenjangan antara kondisi aktual dan kondisi yang diharapkan serta menentukan arah pengembangan kurikulum. Namun, praktik *needs assessment* masih menghadapi persoalan metodologis, seperti penyamaan kebutuhan dengan preferensi, dominasi penggunaan instrumen tunggal, keterbatasan keterlibatan pemangku kepentingan, kurangnya perhatian terhadap konteks, potensi bias, serta lemahnya validasi dan prioritisasi kebutuhan. Penelitian ini bertujuan mengkaji hakikat dan urgensi *needs assessment*, menganalisis pendekatan dan metodologinya, mengevaluasi problematika pelaksanaannya, serta merumuskan rekonstruksi metodologi untuk mendukung perancangan kurikulum tepat guna. Penelitian menggunakan pendekatan kualitatif dengan jenis penelitian kepustakaan (*library research*). Data diperoleh melalui penelusuran dan seleksi literatur ilmiah yang relevan, kemudian dianalisis melalui identifikasi, kategorisasi, perbandingan, sintesis, dan analisis kritis. Hasil kajian menunjukkan bahwa *needs assessment* perlu dilaksanakan secara multidimensional, partisipatif, kontekstual, dan berbasis triangulasi. Pendekatan kuantitatif dan kualitatif perlu digunakan secara komplementer, disertai prioritisasi kebutuhan dan translasi hasil analisis ke dalam tujuan, isi, pengalaman belajar, strategi pembelajaran, serta evaluasi kurikulum. Orientasi futuristik juga diperlukan agar kurikulum responsif terhadap perubahan. Dengan demikian, *needs assessment* perlu diposisikan sebagai proses berkelanjutan untuk menghasilkan kurikulum yang relevan, kontekstual, implementatif, dan adaptif.

Kata Kunci : Needs Assessment, Analisis Kebutuhan, Perancangan Kurikulum, Metodologi.

1. INTRODUCTION

The curriculum is a fundamental component of the education system because it serves as the basis for determining the direction, objectives, content, learning experiences, and evaluation of learning. Curriculum design is fundamentally concerned not only with the development of learning documents but also with ensuring that education is responsive to student characteristics, societal needs, developments in science and technology, and ever-changing environmental demands (Mustadi et al., 2024). Therefore, a good curriculum requires more than just a theoretical and normative foundation; it must also be built on an adequate understanding of the real-world conditions in which it is implemented. In this context, needs assessment plays a crucial role as a basis for curriculum decision-making.

Needs assessment is essentially a systematic process for identifying and analyzing needs by comparing actual conditions with desired conditions. In curriculum design, this process enables curriculum developers to obtain information regarding student characteristics, mastered and unmastered competencies, learning needs, institutional conditions, and social and environmental demands (Khasinah & Elviana, 2022). Thus, a needs assessment aims not only to determine what students or stakeholders want but also to identify gaps that need to be addressed through curricular decisions. The results of a needs analysis can serve as the basis for determining competency priorities, learning content, learning experiences, learning strategies, and evaluation systems relevant to educational conditions.

The urgency of needs assessment becomes increasingly apparent when educational needs are understood as dynamic and multidimensional. Changes in digital technology, social transformation, developments in the world of work, changes in student characteristics, and demands for 21st-century competencies mean that curriculum needs cannot be viewed as fixed. Furthermore, these needs originate not only from students but also involve teachers, educational institution administrators, parents, the community, policymakers, and various stakeholders with an interest in educational

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outcomes. Differences in characteristics between educational institutions also mean that needs found in one context may not be the same as those found in another (Rizal & Hikmah, 2023). This situation demands a needs assessment that captures needs contextually while considering future trends.

Despite its strategic position, the implementation of needs assessment in curriculum design still faces various methodological challenges. In practice, needs analysis can be reduced to collecting student perceptions or preferences through questionnaires, then using the results as the basis for determining learning materials or objectives. This approach has the potential to simplify the concept of needs because educational needs are not always identical to the desires expressed by respondents. Needs can include competency gaps that students are unaware of, institutional demands, social needs, or competencies predicted to be important in the future. If needs identification relies solely on a single perspective, method, or type of data, the results obtained are potentially partial and unable to reflect the complexity of curriculum needs (Smith et al., 2022).

Methodological issues also relate to the choice of approach, data collection techniques, information sources, data validity, and the process of analyzing and prioritizing needs. Quantitative approaches have the ability to map needs trends more broadly and measurably, while qualitative approaches can provide a deeper understanding of the experiences, context, and reasons behind a need. Similarly, the use of surveys, interviews, observations, focus group discussions (FGDs), document analysis, and competency assessments all serve different purposes in generating needs information. The challenge lies not in selecting one method as superior, but rather in how these methods and data sources are used proportionally and complement each other (Raffing et al., 2023). Therefore, triangulation of sources and methods is crucial to increase the validity of the information and identify potential differences in perspective.

Beyond identification and validation, a more fundamental challenge is how needs assessment results are translated into curriculum decisions. Not all identified needs have the same level of urgency and implementability. Limited time, resources, teacher competencies, facilities, and institutional characteristics require analysis and prioritization of needs before they are translated into curriculum components (Kılıç & Saygılı, 2022). Therefore, a needs assessment should not only focus on identifying emerging needs but also on determining which needs are most important, who needs them, why they are prioritized, and how they can be addressed through the curriculum. Failure to connect analysis results with objectives, competencies, content, learning experiences, learning strategies, and evaluation can result in needs assessment becoming merely an administrative procedure with no real impact on curriculum quality.

Based on these conditions, a more critical understanding of the nature, approach, methodology, and challenges of needs assessment in curriculum design is needed. Discussions on needs assessment should not stop at its definition and benefits; they should also examine how needs are determined, how data is collected and validated, who needs to be involved, how context is taken into account, and how the results are translated into curricular decisions. Such a review is crucial to ensure that needs assessment is not understood as a one-time, administrative initial stage, but rather as a methodological process that connects educational reality and curriculum design.

Based on this, this discussion is directed at four main focuses. First, examining the nature and urgency of needs assessment in curriculum design as a foundation for understanding educational needs and gaps. Second, discussing the approach and methodology of needs assessment, specifically the use of quantitative and qualitative approaches, data collection techniques and instruments, data sources, stakeholders, and triangulation. Third, conducting a critical evaluation of the problems of needs assessment methodology by highlighting issues of representation, validity, bias, contextuality, prioritization, and the connection of analysis results to curriculum decisions. Fourth, formulating a reconstruction of the needs assessment methodology for designing an appropriate curriculum through an approach that is multidimensional, participatory, contextual, validated, priority-based, and oriented towards future needs. Through this framework, needs assessment is expected to be positioned not

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merely as an instrument for identifying needs, but as a strategic mechanism for producing a curriculum that is relevant, contextual, implementable, and adaptive to change.

2. RESEARCH METHOD

The curriculum is a fundamental component of the education system because it serves as the basis for determining the direction, objectives, content, learning experiences, and evaluation of learning. Curriculum design is fundamentally concerned not only with the development of learning documents but also with ensuring that education is responsive to student characteristics, societal needs, developments in science and technology, and ever-changing environmental demands (Mustadi et al., 2024). Therefore, a good curriculum requires more than just a theoretical and normative foundation; it must also be built on an adequate understanding of the real-world conditions in which it is implemented. In this context, needs assessment plays a crucial role as a basis for curriculum decision-making.

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3. RESULT AND DISCCUSSION

A. The Nature and Urgency of Needs Assessment in Curriculum Design

Needs assessment, or needs analysis, is a systematic process for identifying, reviewing, and determining needs that serve as the basis for educational decision-making. In the context of curriculum design, needs analysis is used to obtain an overview of the actual conditions of students, the demands of the educational environment, and the ideal conditions to be achieved through the learning process (Irfadila & Noprika, 2022). Therefore, needs assessment is not simply defined as the activity of gathering information about what students or stakeholders want, but as a process of identifying gaps between existing and desired conditions. These gaps then serve as the basis for determining the direction and priorities of curriculum development.

The nature of needs in needs assessment must be distinguished from mere desires or preferences. Desires describe something a person finds interesting or desirable, while needs relate to what is required to achieve specific educational goals. A student, for example, may desire certain learning materials or methods, but assessment results may indicate more pressing core competencies that need to be developed (Park, 2022). Therefore, a needs analysis must consider various forms of needs, including felt needs, expressed needs, and needs identified based on competency gaps and environmental demands. This distinction is crucial so that needs assessment results do not simply follow respondent preferences but rather demonstrate pedagogically and contextually grounded needs.

In curriculum design, needs assessment serves as a foundation connecting educational reality with curricular decisions. The curriculum, by its very nature, does not stand alone; it is designed to

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achieve specific educational objectives according to the characteristics of the students and the environment in which it is implemented (Rizal & Hikmah, 2022). Therefore, curriculum designers need adequate information about who their students are, what competencies they already possess, what competencies need to be developed, and what demands arise from the social and educational environment. This information allows curriculum objectives to be formulated based on real needs, not merely assumptions or normative considerations.

The importance of needs assessment becomes even greater because the curriculum encompasses various interrelated decisions. The results of a needs analysis can provide a basis for determining objectives or competencies to be achieved, selecting learning content and materials, determining learning experiences, selecting learning strategies, and designing an evaluation system. In other words, a needs analysis has consequences for almost all components of the curriculum. When needs are identified incorrectly, decisions made in subsequent stages can also be potentially incongruent (Raffing et al., 2023). Therefore, the quality of the needs assessment can impact the relevance and implementation of the curriculum as a whole.

Needs in education are also multidimensional and cannot be viewed solely from students' academic abilities. A needs analysis must consider student characteristics, learning needs, teacher conditions, the school environment, the availability of learning resources, educational policies, and social and cultural demands. In certain contexts, curriculum needs can also relate to the demands of the workplace, technological developments, or societal needs for specific competencies. This multidimensional understanding enables curriculum designers to view needs as part of an interconnected educational system (Rizal & Hikmah, 2022). Thus, the curriculum designed is not only responsive to the individual needs of students but also to the environment that shapes the educational process.

Contextual aspects are also an important part of the essence of needs assessment. Educational needs are not always the same between institutions, even within the same education system. Differences in student characteristics, social conditions, local culture, school resources, teacher competencies, and geographic environments can result in different curriculum needs (Park, 2022). Therefore, the results of a needs analysis should not be applied mechanically without considering the context. A curriculum deemed appropriate in one environment may not be appropriate when applied to an environment with different characteristics. Needs analysis serves to ensure that curriculum design takes into account the actual conditions in which the curriculum will be implemented.

The urgency of needs assessment is increasingly strong in the face of dynamic social and technological changes and competency demands. These changes mean that the needs of students and society are not fixed. Competencies deemed adequate in one period may become less relevant when changes occur in technology, communication patterns, the world of work, or social life (Kılıç & Saygılı, 2022). Therefore, curriculum design cannot simply refer to existing needs; it must also consider trends in needs that may emerge in the future. From this perspective, needs assessment has an anticipatory function, helping the curriculum prepare students for change, rather than simply responding to existing problems.

In addition to identifying student needs, needs assessment is also crucial for understanding the needs of various stakeholders. Teachers, institutional administrators, parents, the community, policymakers, and graduate users can have differing views regarding the competencies and educational outcomes considered important. These differences demonstrate that curriculum needs are pluralistic and cannot always be represented by a single group. Involving various stakeholders allows curriculum designers to gain a broader perspective while identifying common ground and differences in interests. This process can help determine truly relevant needs and prioritize them in curriculum development.

However, the existence of a needs assessment does not in itself guarantee that the resulting curriculum will be effective. The quality of the analysis results depends heavily on how needs are identified, who is involved, the data sources used, the methods of information collection, and how the data is analyzed and translated into curriculum decisions. A limited needs analysis can produce a

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partial picture of needs, while the use of unvalidated data can lead to curriculum decisions being based on inaccurate information. Therefore, needs assessment needs to be understood not merely as an administrative step in curriculum design, but as a methodological process that requires careful selection of approaches, data sources, information collection techniques, and interpretation of results.

Thus, needs assessment can be viewed as a strategic foundation for producing a relevant, contextual, and effective curriculum. This process enables curriculum designers to connect actual conditions with educational goals, identify gaps that need to be addressed, prioritize needs, and translate these findings into curriculum components. However, for these functions to be realized, needs analysis must be conducted using a methodology that adequately captures the complexity of needs. Questions such as the approach used, the techniques selected, who sources the data, and how the validity of the information is ensured are important to examine. Therefore, the following discussion should focus on the needs assessment approach and methodology used in curriculum design.

B. Needs Assessment Approaches and Methodology in Curriculum Design

1. Quantitative and Qualitative Approaches in Needs Assessment

Needs assessment in curriculum design can be conducted using quantitative, qualitative, or a combination of both approaches. The chosen approach needs to be tailored to the objectives of the analysis and the characteristics of the needs being identified. Quantitative approaches are generally aimed at obtaining an overview of the level, trends, or distribution of needs within a broader target group. Meanwhile, qualitative approaches are used to understand the experiences, perceptions, context, and reasons behind the emergence of a need (Idul & Walag, 2024). These different characteristics indicate that the approach in needs assessment cannot be chosen solely based on technical considerations but must consider the type of information needed to support curriculum decisions.

Quantitative approaches have the advantage of producing structured data and allowing needs to be compared based on their level of importance or identified gaps. Through surveys, for example, curriculum designers can obtain an overview of competencies considered important, required materials, learning difficulties, or preferences of students and stakeholders. This data can help determine patterns of needs and set priorities more systematically. However, the power of quantitative approaches to highlight trends is not always accompanied by the ability to explain the context behind those trends. A need may receive high levels of importance in a survey, but the reasons for its emergence, the experiences underlying it, and the conditions that led to it cannot necessarily be explained through numerical data (Kim & Shin, 2023).

In contrast to quantitative approaches, qualitative approaches allow for understanding needs through real-world experiences and conditions within educational settings. Interviews, observations, focus group discussions (FGDs), and document analysis can be used to explore learning issues, student experiences, educator practices, institutional conditions, and social environmental demands. This approach allows for the emergence of needs not previously anticipated in research instruments. However, qualitative data also presents challenges because its interpretation depends heavily on the depth of the data, the selection of informants, and the researcher's thorough understanding of the context (Yalçin & Sadik, 2024). Therefore, the two approaches have complementary functions. Quantitative approaches provide breadth in mapping needs, while qualitative approaches provide depth in understanding them.

2. Data Collection Techniques and Instruments for Needs Assessment

The selection of data collection techniques is a crucial part of the needs assessment methodology because the quality of the information obtained is greatly influenced by the appropriateness of the technique to the type of needs being assessed. Surveys or questionnaires can be used to efficiently obtain data from a relatively large number of respondents. These instruments can include questions regarding perceptions of needs, levels of competency mastery, skill gaps, and expectations regarding the curriculum. Meanwhile, interviews and focus group discussions (FGDs) are more appropriate when researchers require in-depth information regarding the experiences, reasons, and expectations of

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stakeholders (Halim et al., 2024). Therefore, data collection techniques need to be determined based on the nature of the information required, not solely on ease of implementation.

Observation provides a different dimension because it allows researchers to directly observe educational conditions and practices. Through observation, needs can be identified based on student behavior, learning practices, teacher-student interactions, use of learning resources, and the condition of the learning environment. This information can reveal gaps between what respondents state and what occurs in practice. In addition, document analysis can be used to review existing curricula, learning tools, evaluation results, educational policies, competency standards, and institutional documents. Competency tests or assessments can also be used when the identified needs are related to students' actual abilities (Rohmah et al., 2024). The use of various techniques demonstrates that needs assessment can yield richer information when needs are understood from both a perceptual and empirical perspective.

However, the diversity of techniques does not mean that all techniques must be used simultaneously. The choice of technique must take into account the research objectives, respondent characteristics, available data sources, time, and available resources. Questionnaires, for example, are relatively effective for mapping trends in large numbers of needs, but are less adequate for exploring in-depth reasons. Conversely, interviews can yield rich information but require more time and a more complex analysis process (Idul & Walag, 2024). Therefore, the use of techniques must be designed in a complementary manner so that each method makes a clear contribution to understanding needs. This principle is important to prevent needs assessment from becoming simply a data-gathering exercise with little relevance to decisions made in curriculum design.

3. Data Sources, Stakeholders, and Triangulation

The quality of a needs assessment is also determined by who is involved as a data source. Students are an important source because they directly experience the learning process and can provide information about difficulties, interests, needs, and learning experiences. However, students' perspectives cannot stand alone because curriculum needs are also related to the experiences and demands of others. Teachers can provide information about competency gaps and learning needs, while institutional administrators can provide an overview of the institution's vision, resources, and implementation capacity. Parents, the community, graduate users, and other relevant parties can also provide perspectives on competencies and character traits needed outside the school environment (Kim & Shin, 2023). By involving various stakeholders, a needs assessment can obtain a broader picture of needs than if it only focuses on one group.

The involvement of various data sources becomes increasingly important because the needs perceived by one group are not always the same as those found in another group. Students may consider a learning material or activity as a primary need, while teachers may perceive a gap in a more pressing basic competency. Similarly, societal or workplace demands may reveal competencies that have not been a primary focus in students' learning experiences. These differences should not be immediately eliminated by choosing one perspective, but rather analyzed as part of the process of determining relevant and prioritized needs (Kim & Shin, 2023). Therefore, needs assessments should view these differing perspectives as sources of information that can enrich the curriculum decision-making process.

In these circumstances, triangulation of sources and methods becomes an important strategy for increasing the accuracy of needs assessment results. Source triangulation is carried out by comparing information obtained from various stakeholders, while method triangulation is carried out by comparing results from questionnaires, interviews, observations, tests, or document analysis. For example, the need to improve a competency can be said to be stronger if supported by student perceptions, teacher observations, assessment results, and curriculum documents. Conversely, differences in findings between sources can indicate issues that require further in-depth study. Therefore, triangulation not only serves to reduce bias but also helps build a more comprehensive understanding of needs. Ultimately, a methodological approach that combines methods, sources, and

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perspectives in a balanced manner can provide a stronger foundation for designing a curriculum that is relevant to real needs.

C. Critical Evaluation of Problems in Needs Assessment Methodology

Needs assessment is often positioned as the initial stage that determines the direction of curriculum design. However, this strategic position is not always accompanied by adequate methodological practices. In some practices, needs analysis tends to be understood as the activity of gathering information about what students or stakeholders want, then using it as the basis for determining learning materials and objectives. This perspective has the potential to simplify the essence of needs, as educational needs are not always identical to directly expressed desires or preferences. Needs can also manifest as competency gaps, institutional demands, social needs, or competencies that students are not yet aware of (Halim et al., 2024). Therefore, the first issue that needs to be criticized is the tendency to equate needs with respondents' perceptions or desires.

Methodological issues are also evident in the dominant use of surveys or questionnaires as the primary instrument in needs assessment. Surveys do have the advantage of obtaining data from a relatively large number of respondents and allow researchers to identify measurable trends. However, the sole use of questionnaires can limit the depth of information obtained. Respondents only provide answers based on choices or statements predetermined by the researcher, potentially leaving needs outside the instrument's framework unidentified. Furthermore, respondents' answers can be influenced by their understanding of the questions, previous experiences, or a tendency to provide answers that align with expectations (Yalçin & Sadik, 2024). Thus, survey data should be positioned as one source of information, not as the sole representation of all curriculum needs.

The next criticism relates to the limitations of stakeholder representation. A needs analysis that focuses solely on students, for example, can produce a picture of needs that differs from the understanding of teachers, institutional administrators, parents, or the community. Students may find a topic interesting and important, while teachers see gaps in basic competencies that need to be strengthened. Similarly, the needs deemed important by the institution may not entirely align with the needs perceived by students. These differing perspectives are not weaknesses that must be eliminated, but rather information that needs to be analyzed to gain a more comprehensive understanding of needs (Kim & Shin, 2023). Therefore, needs assessments that do not involve diverse data sources risk producing curriculum decisions based on partial perspectives.

Another limitation lies in the tendency to conduct needs analysis separately from the context in which the curriculum will be implemented. Educational needs in one institution cannot always be simply generalized to other institutions because they are influenced by student characteristics, school culture, social conditions, teacher competency, facilities, and applicable policies. When needs analysis only uses general categories of needs, these contextual aspects can be overlooked. As a result, a curriculum that is conceptually considered relevant may not be appropriate for the conditions in which it is implemented (Yalçin and Sadik, 2024). This demonstrates that the accuracy of a needs assessment is determined not only by the amount of data collected, but also by the methodology's ability to capture the context that shapes those needs.

The issue of data validity is also a crucial aspect in evaluating needs assessment methodology. Information obtained through a single source or technique may not provide a true picture of actual conditions. There may be discrepancies between expressed needs and needs identified through observations of actual practice. For example, students may state they need a specific learning method, but learning observations reveal that the primary problem lies in limited mastery of prerequisite knowledge. Without verification and cross-checking, analysis results can rely too heavily on subjective statements (Idul and Walag, 2024). Therefore, the validity of needs assessments needs to be strengthened through the use of multiple data sources, data collection techniques, and a systematic interpretation process.

In addition to validity, the issue of bias also requires attention. Bias can arise from respondents, instruments, researchers, and institutional interests underlying the needs analysis. Respondents may

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provide answers based on limited experience, while researchers may unconsciously select or interpret data according to initial assumptions. At the institutional level, needs analysis can also be directed to support predetermined decisions. This puts the risk of shifting needs assessment from a process of identifying needs to a process of justifying existing curriculum decisions. Therefore, methodological objectivity cannot be guaranteed solely by the use of research instruments; it also requires procedural transparency, researcher reflexivity, and examination of potential biases in the analysis process.

Another issue is the tendency to treat needs assessment results as a list of needs without adequate prioritization and interpretation. In educational practice, not all identified needs have the same level of urgency, importance, and feasibility. Student needs can be numerous, while learning time, teacher competency, facilities, and curriculum resources are limited (Halim et al., 2024). Therefore, needs analysis should not stop at asking "what is needed," but also consider "which needs are most important," "for whom these needs are prioritized," and "to what extent these needs can be addressed through the curriculum." Without a prioritization process, needs assessment results can be overly broad and difficult to translate into operational curriculum decisions.

A more fundamental criticism concerns the weak link between needs assessment results and curriculum decisions. Often, needs analysis is conducted as an administrative procedure, while the results are not clearly used to determine objectives, competencies, content, learning strategies, or evaluation systems. This situation indicates a gap between the needs identification stage and the curriculum design stage. The strategic value of needs assessment lies in its ability to translate empirical findings into educational decisions. If this connection is not explicitly established, needs analysis merely produces information without making a real contribution to curriculum relevance.

Thus, evaluations of needs assessment methodologies demonstrate that the primary issue is not simply choosing between quantitative and qualitative methods, but rather how the entire process produces a valid, representative, contextualized, and actionable understanding of needs. A quality needs assessment must avoid reducing needs to mere preferences, broaden stakeholder engagement, use diverse sources and techniques, anticipate bias, and validate and prioritize findings. Furthermore, analysis results must clearly link to decisions regarding curriculum objectives, content, learning processes, and evaluation. With this framework, a critical evaluation of needs assessment does not stop at identifying weaknesses but serves as the basis for reconstructing a more comprehensive and contextual methodology for designing an appropriate curriculum.

D. Reconstructing the Needs Assessment Methodology for Appropriate Curriculum Design

Reconstructing the needs assessment methodology is necessary to address various limitations identified in the practice of needs analysis. Based on previous evaluations, needs analysis cannot simply be conducted by gathering perceptions from specific groups; it must be positioned as a systematic process that connects actual conditions, expected needs, context characteristics, and the direction of curriculum development. This reconstruction does not essentially replace all existing methods, but rather integrates various approaches to make the needs identification process more comprehensive and accountable (Mirici et al., 2022). Thus, needs assessment is directed from a mere identification activity to an analysis process that provides a basis for curriculum decision-making.

The first principle that needs to be strengthened is the multidimensional nature of needs identification. Curriculum needs are not only related to the abilities or deficiencies of students, but also encompass the needs of teachers, institutions, society, and the demands of scientific and technological developments (Rofik & Ariyani, 2023). Therefore, needs mapping must encompass at least the dimensions of students, learning, institutions, the social environment, and future needs. A multidimensional approach allows curriculum designers to view needs as an interconnected system. Gaps in one dimension, such as student competency, may relate to other dimensions such as learning strategies, teacher competency, or the availability of learning resources.

The second principle is strengthening the participatory nature of the needs analysis process. Students, teachers, institutional administrators, parents, the community, and other relevant parties need to be positioned not only as sources of information, but also as stakeholders with perspectives in

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determining curriculum needs. This involvement is crucial because each stakeholder has different experiences and interests in the educational process. Differences in perspective should not be immediately viewed as a problem, but can instead serve as a basis for identifying needs of varying importance. Through a participatory process, the curriculum has a greater opportunity to gain social and institutional legitimacy while increasing its suitability to real-world conditions (Monica et al., 2024).

The next principle is the use of triangulation as a mechanism to strengthen the validity of the analysis results. Information regarding needs should not be obtained solely from a single technique or source, but rather compared across a variety of relevant data. Student perceptions obtained through questionnaires, for example, can be compared with the results of teacher interviews, learning observations, and analysis of curriculum documents. If various sources show similar trends, confidence in the findings can be strengthened. Conversely, if differences are found, these differences can provide important information that requires further analysis (Beniario, 2023). Thus, triangulation is not simply used to find similarities in data but also to understand the differences in perspectives that emerge within an educational context.

Methodological reconstruction also requires emphasizing context as an integral part of needs analysis. Curriculum needs are always situated within a specific environment and are influenced by social, cultural, institutional, and geographical conditions, as well as student characteristics. Therefore, needs assessment results should not be mechanically applied from one context to another without considering these differences in characteristics. A needs analysis must address not only the needs that arise, but also the context in which they arise, who experiences them, and what factors make them important. This contextual orientation is a prerequisite for a curriculum that is not only conceptually relevant but also realistic for implementation (Bahri et al., 2023).

Furthermore, the results of needs identification require a prioritization process. Not all needs identified can be directly incorporated into the curriculum due to limitations in time, resources, educator competencies, and student characteristics. Priorities can be determined based on the level of urgency, impact on achieving educational goals, number of affected parties, and the level of implementation of curricular responses. This process makes needs assessment more than just an inventory of needs. A needs analysis must be able to generate decisions about which needs must be addressed immediately, which needs can be developed gradually, and which needs are more appropriately addressed through policies or interventions outside the curriculum (Rofik & Ariyani, 2023).

Another important aspect is explicitly linking the needs assessment results to curriculum components. The results of the needs identification must be translated into learning objectives, competencies to be achieved, content or material selection, learning experiences, learning strategies, and evaluation methods. For example, if the analysis reveals gaps in communication skills, these findings should not simply be recorded as "needs for communication improvement." They should be translated into measurable competencies, appropriate learning experiences, and assessment methods that demonstrate achievement. This translation process makes the needs assessment results directly useful in the curriculum design process and reduces the gap between the needs analysis findings and the curriculum product (Ziya et al., 2023).

In addition to being oriented towards current needs, the reconstructed methodology must have a futuristic dimension. The curriculum should not only address the challenges currently facing students but also prepare them for changes that may occur in the future. The development of digital technology, changes in work patterns, social transformation, and the emergence of new competencies indicate that educational needs can change rapidly (Wijaya et al., 2023). Therefore, the needs analysis must consider trends in environmental developments and the competencies that are expected to be increasingly needed. A future-oriented approach prevents the curriculum from being reactive to existing problems, but rather enables it to anticipate change and prepare students more adaptively.

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Based on these principles, the needs assessment methodology for designing an appropriate curriculum can be viewed as a cycle consisting of context mapping, stakeholder identification, data collection from various sources, gap analysis, triangulation and validation of findings, prioritization of needs, and translation of needs into curriculum components. This cycle does not end after the curriculum is designed; it must be continued through monitoring and evaluation to determine whether the curriculum truly responds to the identified needs. Thus, needs assessment is no longer positioned as a one-time initial stage, but rather as an ongoing process that allows the curriculum to be continuously adapted to changing needs. This reconstruction ultimately positions needs analysis as a connecting mechanism between educational reality and curriculum decisions, ensuring that the concept of an appropriate curriculum is not only theoretically relevant but also aligned with real needs, implementable, and adaptive to change.

A. The Nature and Urgency of Needs Assessment in Curriculum Design

Needs assessment, or needs analysis, is a systematic process for identifying, reviewing, and determining needs that serve as the basis for educational decision-making. In the context of curriculum design, needs analysis is used to obtain an overview of the actual conditions of students, the demands of the educational environment, and the ideal conditions to be achieved through the learning process (Irfadila & Noprika, 2022). Therefore, needs assessment is not simply defined as the activity of gathering information about what students or stakeholders want, but as a process of identifying gaps between existing and desired conditions. These gaps then serve as the basis for determining the direction and priorities of curriculum development.

The nature of needs in needs assessment must be distinguished from mere desires or preferences. Desires describe something a person finds interesting or desirable, while needs relate to what is required to achieve specific educational goals. A student, for example, may desire certain learning materials or methods, but assessment results may indicate more pressing core competencies that need to be developed (Park, 2022). Therefore, a needs analysis must consider various forms of needs, including felt needs, expressed needs, and needs identified based on competency gaps and environmental demands. This distinction is crucial so that needs assessment results do not simply follow respondent preferences but rather demonstrate pedagogically and contextually grounded needs.

In curriculum design, needs assessment serves as a foundation connecting educational reality with curricular decisions. The curriculum, by its very nature, does not stand alone; it is designed to achieve specific educational objectives according to the characteristics of the students and the environment in which it is implemented (Rizal & Hikmah, 2022). Therefore, curriculum designers need adequate information about who their students are, what competencies they already possess, what competencies need to be developed, and what demands arise from the social and educational environment. This information allows curriculum objectives to be formulated based on real needs, not merely assumptions or normative considerations.

The importance of needs assessment becomes even greater because the curriculum encompasses various interrelated decisions. The results of a needs analysis can provide a basis for determining objectives or competencies to be achieved, selecting learning content and materials, determining learning experiences, selecting learning strategies, and designing an evaluation system. In other words, a needs analysis has consequences for almost all components of the curriculum. When needs are identified incorrectly, decisions made in subsequent stages can also be potentially incongruent (Raffing et al., 2023). Therefore, the quality of the needs assessment can impact the relevance and implementation of the curriculum as a whole.

Needs in education are also multidimensional and cannot be viewed solely from students' academic abilities. A needs analysis must consider student characteristics, learning needs, teacher conditions, the school environment, the availability of learning resources, educational policies, and social and cultural demands. In certain contexts, curriculum needs can also relate to the demands of the workplace, technological developments, or societal needs for specific competencies. This multidimensional understanding enables curriculum designers to view needs as part of an

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interconnected educational system (Rizal & Hikmah, 2022). Thus, the curriculum designed is not only responsive to the individual needs of students but also to the environment that shapes the educational process.

Contextual aspects are also an important part of the essence of needs assessment. Educational needs are not always the same between institutions, even within the same education system. Differences in student characteristics, social conditions, local culture, school resources, teacher competencies, and geographic environments can result in different curriculum needs (Park, 2022). Therefore, the results of a needs analysis should not be applied mechanically without considering the context. A curriculum deemed appropriate in one environment may not be appropriate when applied to an environment with different characteristics. Needs analysis serves to ensure that curriculum design takes into account the actual conditions in which the curriculum will be implemented.

The urgency of needs assessment is increasingly strong in the face of dynamic social and technological changes and competency demands. These changes mean that the needs of students and society are not fixed. Competencies deemed adequate in one period may become less relevant when changes occur in technology, communication patterns, the world of work, or social life (Kılıç & Saygılı, 2022). Therefore, curriculum design cannot simply refer to existing needs; it must also consider trends in needs that may emerge in the future. From this perspective, needs assessment has an anticipatory function, helping the curriculum prepare students for change, rather than simply responding to existing problems.

In addition to identifying student needs, needs assessment is also crucial for understanding the needs of various stakeholders. Teachers, institutional administrators, parents, the community, policymakers, and graduate users can have differing views regarding the competencies and educational outcomes considered important. These differences demonstrate that curriculum needs are pluralistic and cannot always be represented by a single group. Involving various stakeholders allows curriculum designers to gain a broader perspective while identifying common ground and differences in interests. This process can help determine truly relevant needs and prioritize them in curriculum development.

However, the existence of a needs assessment does not in itself guarantee that the resulting curriculum will be effective. The quality of the analysis results depends heavily on how needs are identified, who is involved, the data sources used, the methods of information collection, and how the data is analyzed and translated into curriculum decisions. A limited needs analysis can produce a partial picture of needs, while the use of unvalidated data can lead to curriculum decisions being based on inaccurate information. Therefore, needs assessment needs to be understood not merely as an administrative step in curriculum design, but as a methodological process that requires careful selection of approaches, data sources, information collection techniques, and interpretation of results.

Thus, needs assessment can be viewed as a strategic foundation for producing a relevant, contextual, and effective curriculum. This process enables curriculum designers to connect actual conditions with educational goals, identify gaps that need to be addressed, prioritize needs, and translate these findings into curriculum components. However, for these functions to be realized, needs analysis must be conducted using a methodology that adequately captures the complexity of needs. Questions such as the approach used, the techniques selected, who sources the data, and how the validity of the information is ensured are important to examine. Therefore, the following discussion should focus on the needs assessment approach and methodology used in curriculum design.

B. Needs Assessment Approaches and Methodology in Curriculum Design

1. Quantitative and Qualitative Approaches in Needs Assessment

Needs assessment in curriculum design can be conducted using quantitative, qualitative, or a combination of both approaches. The chosen approach needs to be tailored to the objectives of the analysis and the characteristics of the needs being identified. Quantitative approaches are generally aimed at obtaining an overview of the level, trends, or distribution of needs within a broader target group. Meanwhile, qualitative approaches are used to understand the experiences, perceptions, context, and reasons behind the emergence of a need (Idul & Walag, 2024). These different

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characteristics indicate that the approach in needs assessment cannot be chosen solely based on technical considerations but must consider the type of information needed to support curriculum decisions.

Quantitative approaches have the advantage of producing structured data and allowing needs to be compared based on their level of importance or identified gaps. Through surveys, for example, curriculum designers can obtain an overview of competencies considered important, required materials, learning difficulties, or preferences of students and stakeholders. This data can help determine patterns of needs and set priorities more systematically. However, the power of quantitative approaches to highlight trends is not always accompanied by the ability to explain the context behind those trends. A need may receive high levels of importance in a survey, but the reasons for its emergence, the experiences underlying it, and the conditions that led to it cannot necessarily be explained through numerical data (Kim & Shin, 2023).

In contrast to quantitative approaches, qualitative approaches allow for understanding needs through real-world experiences and conditions within educational settings. Interviews, observations, focus group discussions (FGDs), and document analysis can be used to explore learning issues, student experiences, educator practices, institutional conditions, and social environmental demands. This approach allows for the emergence of needs not previously anticipated in research instruments. However, qualitative data also presents challenges because its interpretation depends heavily on the depth of the data, the selection of informants, and the researcher's thorough understanding of the context (Yalçin & Sadik, 2024). Therefore, the two approaches have complementary functions. Quantitative approaches provide breadth in mapping needs, while qualitative approaches provide depth in understanding them.

2. Data Collection Techniques and Instruments for Needs Assessment

The selection of data collection techniques is a crucial part of the needs assessment methodology because the quality of the information obtained is greatly influenced by the appropriateness of the technique to the type of needs being assessed. Surveys or questionnaires can be used to efficiently obtain data from a relatively large number of respondents. These instruments can include questions regarding perceptions of needs, levels of competency mastery, skill gaps, and expectations regarding the curriculum. Meanwhile, interviews and focus group discussions (FGDs) are more appropriate when researchers require in-depth information regarding the experiences, reasons, and expectations of stakeholders (Halim et al., 2024). Therefore, data collection techniques need to be determined based on the nature of the information required, not solely on ease of implementation.

Observation provides a different dimension because it allows researchers to directly observe educational conditions and practices. Through observation, needs can be identified based on student behavior, learning practices, teacher-student interactions, use of learning resources, and the condition of the learning environment. This information can reveal gaps between what respondents state and what occurs in practice. In addition, document analysis can be used to review existing curricula, learning tools, evaluation results, educational policies, competency standards, and institutional documents. Competency tests or assessments can also be used when the identified needs are related to students' actual abilities (Rohmah et al., 2024). The use of various techniques demonstrates that needs assessment can yield richer information when needs are understood from both a perceptual and empirical perspective.

However, the diversity of techniques does not mean that all techniques must be used simultaneously. The choice of technique must take into account the research objectives, respondent characteristics, available data sources, time, and available resources. Questionnaires, for example, are relatively effective for mapping trends in large numbers of needs, but are less adequate for exploring in-depth reasons. Conversely, interviews can yield rich information but require more time and a more complex analysis process (Idul & Walag, 2024). Therefore, the use of techniques must be designed in a complementary manner so that each method makes a clear contribution to understanding needs. This

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principle is important to prevent needs assessment from becoming simply a data-gathering exercise with little relevance to decisions made in curriculum design.

3. Data Sources, Stakeholders, and Triangulation

The quality of a needs assessment is also determined by who is involved as a data source. Students are an important source because they directly experience the learning process and can provide information about difficulties, interests, needs, and learning experiences. However, students' perspectives cannot stand alone because curriculum needs are also related to the experiences and demands of others. Teachers can provide information about competency gaps and learning needs, while institutional administrators can provide an overview of the institution's vision, resources, and implementation capacity. Parents, the community, graduate users, and other relevant parties can also provide perspectives on competencies and character traits needed outside the school environment (Kim & Shin, 2023). By involving various stakeholders, a needs assessment can obtain a broader picture of needs than if it only focuses on one group.

The involvement of various data sources becomes increasingly important because the needs perceived by one group are not always the same as those found in another group. Students may consider a learning material or activity as a primary need, while teachers may perceive a gap in a more pressing basic competency. Similarly, societal or workplace demands may reveal competencies that have not been a primary focus in students' learning experiences. These differences should not be immediately eliminated by choosing one perspective, but rather analyzed as part of the process of determining relevant and prioritized needs (Kim & Shin, 2023). Therefore, needs assessments should view these differing perspectives as sources of information that can enrich the curriculum decision-making process.

In these circumstances, triangulation of sources and methods becomes an important strategy for increasing the accuracy of needs assessment results. Source triangulation is carried out by comparing information obtained from various stakeholders, while method triangulation is carried out by comparing results from questionnaires, interviews, observations, tests, or document analysis. For example, the need to improve a competency can be said to be stronger if supported by student perceptions, teacher observations, assessment results, and curriculum documents. Conversely, differences in findings between sources can indicate issues that require further in-depth study. Therefore, triangulation not only serves to reduce bias but also helps build a more comprehensive understanding of needs. Ultimately, a methodological approach that combines methods, sources, and perspectives in a balanced manner can provide a stronger foundation for designing a curriculum that is relevant to real needs.

C. Critical Evaluation of Problems in Needs Assessment Methodology

Needs assessment is often positioned as the initial stage that determines the direction of curriculum design. However, this strategic position is not always accompanied by adequate methodological practices. In some practices, needs analysis tends to be understood as the activity of gathering information about what students or stakeholders want, then using it as the basis for determining learning materials and objectives. This perspective has the potential to simplify the essence of needs, as educational needs are not always identical to directly expressed desires or preferences. Needs can also manifest as competency gaps, institutional demands, social needs, or competencies that students are not yet aware of (Halim et al., 2024). Therefore, the first issue that needs to be criticized is the tendency to equate needs with respondents' perceptions or desires.

Methodological issues are also evident in the dominant use of surveys or questionnaires as the primary instrument in needs assessment. Surveys do have the advantage of obtaining data from a relatively large number of respondents and allow researchers to identify measurable trends. However, the sole use of questionnaires can limit the depth of information obtained. Respondents only provide answers based on choices or statements predetermined by the researcher, potentially leaving needs outside the instrument's framework unidentified. Furthermore, respondents' answers can be influenced by their understanding of the questions, previous experiences, or a tendency to provide answers that

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align with expectations (Yalçin & Sadik, 2024). Thus, survey data should be positioned as one source of information, not as the sole representation of all curriculum needs.

The next criticism relates to the limitations of stakeholder representation. A needs analysis that focuses solely on students, for example, can produce a picture of needs that differs from the understanding of teachers, institutional administrators, parents, or the community. Students may find a topic interesting and important, while teachers see gaps in basic competencies that need to be strengthened. Similarly, the needs deemed important by the institution may not entirely align with the needs perceived by students. These differing perspectives are not weaknesses that must be eliminated, but rather information that needs to be analyzed to gain a more comprehensive understanding of needs (Kim & Shin, 2023). Therefore, needs assessments that do not involve diverse data sources risk producing curriculum decisions based on partial perspectives.

Another limitation lies in the tendency to conduct needs analysis separately from the context in which the curriculum will be implemented. Educational needs in one institution cannot always be simply generalized to other institutions because they are influenced by student characteristics, school culture, social conditions, teacher competency, facilities, and applicable policies. When needs analysis only uses general categories of needs, these contextual aspects can be overlooked. As a result, a curriculum that is conceptually considered relevant may not be appropriate for the conditions in which it is implemented (Yalçin and Sadik, 2024). This demonstrates that the accuracy of a needs assessment is determined not only by the amount of data collected, but also by the methodology's ability to capture the context that shapes those needs.

The issue of data validity is also a crucial aspect in evaluating needs assessment methodology. Information obtained through a single source or technique may not provide a true picture of actual conditions. There may be discrepancies between expressed needs and needs identified through observations of actual practice. For example, students may state they need a specific learning method, but learning observations reveal that the primary problem lies in limited mastery of prerequisite knowledge. Without verification and cross-checking, analysis results can rely too heavily on subjective statements (Idul and Walag, 2024). Therefore, the validity of needs assessments needs to be strengthened through the use of multiple data sources, data collection techniques, and a systematic interpretation process.

In addition to validity, the issue of bias also requires attention. Bias can arise from respondents, instruments, researchers, and institutional interests underlying the needs analysis. Respondents may provide answers based on limited experience, while researchers may unconsciously select or interpret data according to initial assumptions. At the institutional level, needs analysis can also be directed to support predetermined decisions. This puts the risk of shifting needs assessment from a process of identifying needs to a process of justifying existing curriculum decisions. Therefore, methodological objectivity cannot be guaranteed solely by the use of research instruments; it also requires procedural transparency, researcher reflexivity, and examination of potential biases in the analysis process.

Another issue is the tendency to treat needs assessment results as a list of needs without adequate prioritization and interpretation. In educational practice, not all identified needs have the same level of urgency, importance, and feasibility. Student needs can be numerous, while learning time, teacher competency, facilities, and curriculum resources are limited (Halim et al., 2024). Therefore, needs analysis should not stop at asking "what is needed," but also consider "which needs are most important," "for whom these needs are prioritized," and "to what extent these needs can be addressed through the curriculum." Without a prioritization process, needs assessment results can be overly broad and difficult to translate into operational curriculum decisions.

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D. Reconstructing the Needs Assessment Methodology for Appropriate Curriculum Design

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Another important aspect is explicitly linking the needs assessment results to curriculum components. The results of the needs identification must be translated into learning objectives, competencies to be achieved, content or material selection, learning experiences, learning strategies, and evaluation methods. For example, if the analysis reveals gaps in communication skills, these findings should not simply be recorded as "needs for communication improvement." They should be translated into measurable competencies, appropriate learning experiences, and assessment methods that demonstrate achievement. This translation process makes the needs assessment results directly useful in the curriculum design process and reduces the gap between the needs analysis findings and the curriculum product (Ziya et al., 2023).

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Based on these principles, the needs assessment methodology for designing an appropriate curriculum can be viewed as a cycle consisting of context mapping, stakeholder identification, data collection from various sources, gap analysis, triangulation and validation of findings, prioritization of needs, and translation of needs into curriculum components. This cycle does not end after the curriculum is designed; it must be continued through monitoring and evaluation to determine whether the curriculum truly responds to the identified needs. Thus, needs assessment is no longer positioned as a one-time initial stage, but rather as an ongoing process that allows the curriculum to be continuously adapted to changing needs. This reconstruction ultimately positions needs analysis as a connecting mechanism between educational reality and curriculum decisions, ensuring that the concept of an appropriate curriculum is not only theoretically relevant but also aligned with real needs, implementable, and adaptive to change.

4. CONCLUSION

Needs assessment is a strategic foundation in curriculum design because it connects actual conditions with the ideal conditions to be achieved through education. Needs analysis goes beyond identifying student or stakeholder desires; it encompasses the process of identifying gaps, understanding contextual characteristics, identifying environmental demands, and determining relevant needs for curriculum development. Therefore, needs assessment has consequences for various curriculum components, from goal and competency setting, content selection, learning experiences, instructional strategies, and evaluation.

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This study shows that the implementation of needs assessment still faces several methodological issues, such as the tendency to equate needs with preferences, the predominant use of questionnaires, limited stakeholder involvement, lack of attention to context, potential bias, and weak validation and prioritization of needs. These issues demonstrate that method selection alone is insufficient to ensure the quality of needs analysis. Quantitative and qualitative approaches need to be used in a complementary manner, tailored to the characteristics of the information needed, supported by various techniques, data sources, and triangulation to ensure more valid, comprehensive, and accountable needs are generated.

Consequently, the needs assessment methodology needs to be reconstructed as a multidimensional, participatory, contextual, validated, priority-based, and future-oriented process. This process includes context mapping, stakeholder engagement, data collection and triangulation, gap analysis, prioritization of needs, and translation of the analysis results into curriculum components and ongoing evaluation. Therefore, needs assessment should not be positioned as an administrative stage that stops at needs identification, but rather as an ongoing process that ensures the curriculum remains relevant, contextual, implementable, and adaptive to change.

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